

### REMARKS

In the instant application, claims 1-13 are cancelled and claims 14-33 are pending, of which claims 28 and 29 have been withdrawn from consideration.

Claim 15 stands rejected for allegedly being indefinite to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 14-16, 18-25, 27, and 30-32 stand rejected under 35 U.S.C. 102 for allegedly being anticipated by US Pat. No. 4,203,509 to Thompson et al. (hereinafter "Thompson"). Claims 17, 26, and 33 stand rejected under 35 U.S.C. 103 for allegedly being unpatentable over the Thompson reference. Applicants respectfully maintain that the claims are patentable for at least the reasons set forth below.

In addition, a Replacement Sheet of the Drawings, with changes made, and an Annotated Sheet of the same, setting forth the changes, are also submitted. Applicants respectfully state that no new matter has been introduced by the drawing changes. Applicants submit that the numeric identifier "30" in the drawings should have been "12" as provided for in the application as originally filed. Support for the changes can be found in the specification in general and at least at page 7, lines 3-6, wherein the "bushing 12 may not extend the entire length of the roller 10, but, as shown in Figure 3, extends only partially into the central aperture 18..." and page 8, lines 1-2, wherein the "bushing 12 is integrated into the outer housing 14 and is not a separate entity." Accordingly, Applicants respectfully request acceptance of the changes to the drawings.

#### **Rejection Under 35 U.S.C. 112, second paragraph**

Claim 15 stands rejected under 35 U.S.C. 112, second paragraph for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Patent Office writes on page 2, lines 19-20, of the Office Action that it "is not clear what exactly the limitation 'roller is a single piece

component' is referring to." Applicants respectfully disagree with the Patent Office's assessment.

Applicants submit that the patent application does particularly point out and distinctly claim the subject matter which is being claimed. Applicants direct the Patent Office to at least page 3, lines 10-11; page 4, lines 9-10; page 8, lines 1-3; and Fig. 5. Fig. 5, which shows one embodiment of the invention, depicts an exemplary roller (10) which is a roller of a "single piece component." This roller has an outer housing (14), an aperture (18), a bushing (12 formerly 30), and a shoulder (36). Applicants submit that this particular embodiment of the invention is not made of a plurality of pieces/components, but an apparatus made of one integral piece whose parts are described as the outer housing, aperture, bushing, and shoulder. Thus, the reference to outer housing (14), aperture (18), bushing (12 formerly 30), and shoulder (36) do not describe "a plurality of pieces/components" as alleged in the Office Action on page 3, line 1. Instead, the references merely describe the parts of a roller designed as a single piece component. Claim 15, drawn to a roller made as a single piece component, is particularly pointed out and distinctly claimed in the application. Accordingly, Applicants respectfully request reconsideration and withdrawal of rejection to claim 15.

#### **Rejection Under 35 U.S.C. 102(b)**

Claims 14-16, 18-25, 27, and 30-32 stand rejected under 35 U.S.C. 102(b) for allegedly being anticipated by Thompson. Applicants respectfully disagree.

In the instant application, Applicants' claimed invention is set forth in independent claim 14. Claim 14 is drawn to an aircraft roller wherein the body of the roller consists essentially of a polymer. In contrast, the roller described by Thompson has only a *tire* of elastomeric or plastic material (column 2, lines 8-15) around an aluminum tubular body 10' (column 2, lines 34-40). So, unlike the roller of the instant invention whose body consists essentially of a polymer, the Thompson reference describes a roller made of a tubular body of aluminum having flanges with only a tire of elastomeric or plastic material.

A further distinction is that the elastomeric or plastic material of the Thompson roller is flattened with heavy loads “whereupon all further increments of load are sustained by flange surfaces 15 *alone*, and in direct radial-force transmitting alignment with the respective planes of radial-bearing support.” (See column 2, line 65 to column 3, line 4, emphasis added). The Thompson reference further states that “for overload conditions, which are usually transient in nature, the tire 17 is not called upon to take the excess, thereby *avoiding excessive force upon the central span of body 10*.” (See column 3, lines 4-8, emphasis added). Thus, it appears that the Thompson tire cannot take on heavy loads, and the Thompson roller is designed so that excessive weight on the central span of the body of the roller is avoided.

In sharp contrast, the roller of Applicants’ instant invention has a body that consists essentially of a polymer, wherein the polymer bears, along the central span of its body, *all* types of load of the air-freight industry. And, unlike the Thompson roller, Applicants’ claimed roller can handle these loads without the use of flanges and radial supports.

Further, while the body of Applicants’ claimed invention consists essentially of a polymer, the necessary flanges of the Thompson rollers are described in the Thompson reference as being made of aluminum (column 2, lines 34-36 and 40-43).

Accordingly, the roller of the Thompson reference cannot anticipate Applicants’ claimed invention as set forth in independent claim 14. As claims 15, 16, 18-25, 27, and 30-32 depend from, directly or indirectly, and incorporate all the limitations of claim 14, these claims are also not anticipated by the Thompson reference.

Applicants respectfully submit that, for at least the reasons provided above, independent claim 14 and dependent claims 15, 16, 18-25, 27, and 30-32, are not anticipated by Thompson. Reconsideration and withdrawal of the rejection under 35 U.S.C. 102(b) are respectfully requested.

### **Rejection Under 35 U.S.C. 103**

Claims 17, 26, and 33 stand rejected under 35 U.S.C. 103 for allegedly being unpatentable over Thompson. Applicants respectfully disagree.

The Thompson reference teaches a roller with a tubular body of aluminum with a shape depicted in part 10' in Fig. 2 (column 2, lines 34-36). Among other things, the aluminum tubular body has an outer-flange cylindrical surface 15' which extends all the way to the adjacent end of the body (column 2, lines 40-43 and Fig. 2) and a circumferentially continuous elongate tire in the groove between the flanges (column 2, lines 8-12), the tire being of a elastomeric or plastic material (column 2, lines 12-15). While the elastomeric or plastic tire makes for a lighter roller, it cannot, according to the Thompson reference, withstand the full variety of loads and abuses of the air-freight industry without the flanges to bear the weight. The Thompson reference teaches rollers whose flanges are made of aluminum.

In the instant application, Applicants independent claim 14 is directed to an aircraft roller whose body consists essentially of a polymer. The Thompson reference does not teach that an aircraft roller, which must withstand the full variety of loads and abuses, can have a body that consists essentially of a polymer. The Thompson reference does not suggest that an aircraft roller can have a body that consists essentially of a polymer. Nor, does the Thompson reference motivate one of ordinary skill in the art to make an aircraft roller with a body that consists essentially of a polymer.

In fact, not only is there no such teaching, suggestion or motivation, Applicants submit that the Thompson reference appears to teach away from a body consisting essentially of a polymer as the elastomeric or plastic material of the Thompson reference deforms and the excess force *must* be taken up by the flanges (which are aluminum) and radial supports so that excessive force is avoided in the central span of the body, *i.e.*, the elastomeric or plastic area. The Thompson reference appears to suggest that a roller of an elastomeric or plastic material (without more) cannot be used to handle the variety of loads

and abuses in the air-freight industry. In direct contravention to this, Applicants' claim 14 is drawn to a roller whose body consists essentially of a polymer. Accordingly, Applicants respectfully submit that, in light of the Thompson disclosure, the subject matter as a whole would not have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Applicants respectfully submit that, for at least the foregoing reasons, claims 17, 26, and 33, which all depend from and incorporate, directly or indirectly, all the limitations of independent claim 14, are patentable over Thompson. Reconsideration and withdrawal of the rejection under 35 U.S.C. 103 are respectfully requested.

#### CONCLUSION

Applicants thank the Examiner for the efforts he has expended in furthering the prosecution of the instant application.

In light of the reasons presented herein Applicants respectfully request reconsideration and passage of claims 14-27 and 30-33 to allowance. At this time, Applicants also request reconsideration, rejoinder, and allowance of claims 28 and 29 as they depend from and incorporate, directly or indirectly, all the elements of patentable independent claim 14.

Should the Examiner have any questions or comments regarding this communication, he is urged to call the undersigned attorney at 281-253-9834 or 401-683-0635.

Respectfully,

A handwritten signature in black ink, appearing to read 'Mi K. Kim', with a long horizontal flourish extending to the right.

Mi K. Kim  
Reg No. 44,830

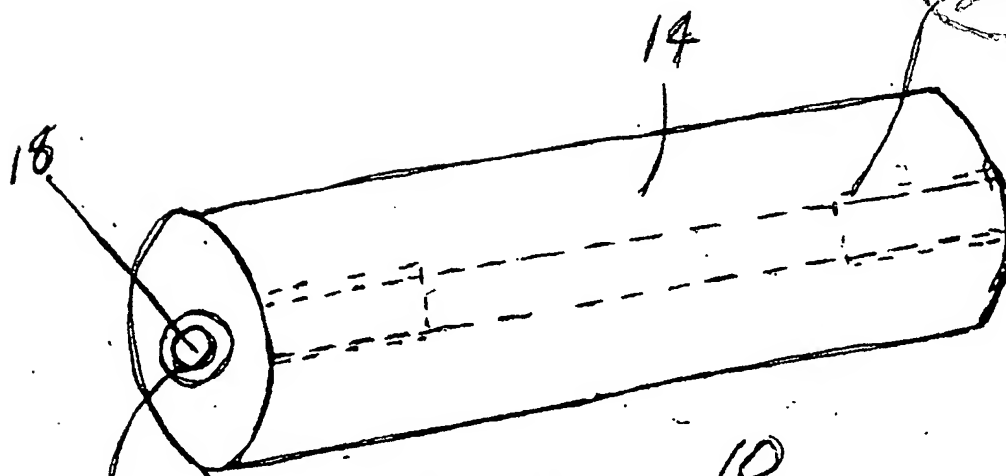


fig 3 10

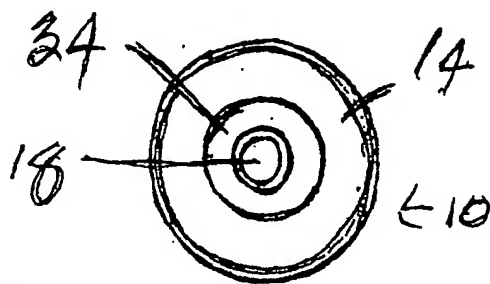


Fig 4

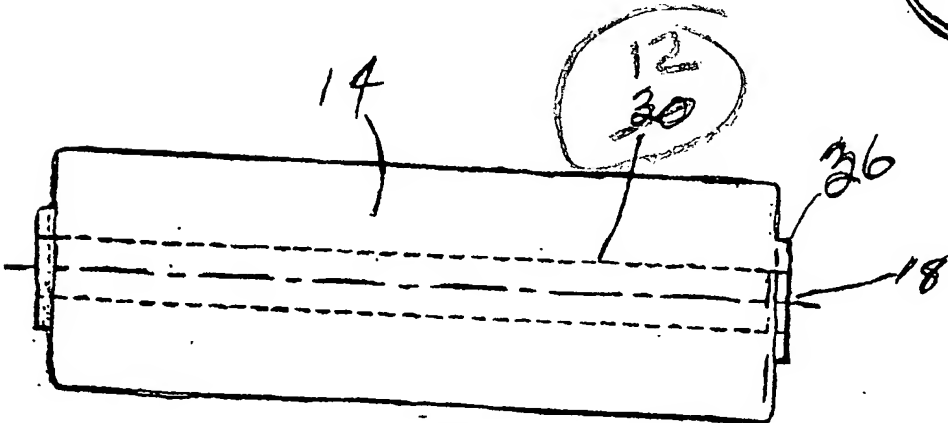


fig 5 10